Kentucky Utilities Company has applied to the Kentucky Division for Air Quality for a Title V permit to operate its Tyrone Station electric generating facility located on U.S. Highway 62, Versailles, Kentucky. The plant is a Title V source because potential emissions of criteria pollutants exceed the major source threshold.

A preliminary determination was made to approve the permit and a public notice was placed in The Woodford Sun on, December 18, 1997. The comment period expired and comments were received from the source, and the Utility Information Exchange of Kentucky (UIEK). Responses to comments and permit changes associated with those comments are listed in Attachment D. Additionally, minor revisions have been made to the language of Sections A, C, F, and G to reflect changes made to the division's Title V permit template for clarity purposes only.

Comments were also received from the U.S. EPA on proposed/final permits issued to other utilities being permitted by this agency. Some of the additional comments were determined to be applicable to all electric generating, utility Title V permits being issued by the division. The changes resulting from these comments include the following:

1) Unit 05, condition 4.a. The second proposed SO2 monitoring scenario, the use of a daily as-fired sample for determining compliance with the SO2 allowable emission rate, has been removed. The first method requiring the facility to monitor SO2 emission using the unit's continuous emissions monitoring systems (CEMS) has been selected in response to U.S. EPA comments.

2) Regulation 61:015 has not been approved by U.S. EPA. This regulation was replaced by a revision on April 1, 1984 and the current language must remain in the permit as issued. EPA requested that additional language be added stating that the regulation was state-enforceable only. The following italicized language has been added to Section B of the permit where 61:015 is applicable.

   "Regulation 401 KAR 61:015, Existing indirect heat exchangers (State Effective Date: April 1, 1984) applicable to an emission unit with a capacity of more than 250 mm BTU per hour and commenced before August 17, 1971. *This regulation is state-enforceable only until such time as the effective date of an EPA rulemaking, approving this regulation into the federally-approved Kentucky State Implementation Plan*

3) The following language has been added to Section G, Subsection (d)2 Acid Rain Program Requirements as suggested.

   The source shall comply with all requirements and conditions of the Title IV, Acid Rain Permit (A-98-003, ATTACHMENT C) and the Phase II permit application (including the Phase II NOx compliance plan and averaging plan, if applicable) issued for this source. The source shall also comply with all requirements of any revised or future acid rain permit(s) issued to this source.

4) Section G, condition #21 states that "all previously issued construction and operating permits are hereby null and void." This sentence should be changed to more accurately reflect Kentucky's combined construction/operating permit program to read as follows:

"All previously issued construction and operating permit are hereby **subsumed** into this permit

In conclusion, a thorough analysis has been made of all relevant information available which pertains to this application. The division has concluded that the source will comply with all applicable air quality regulations and requirements. Compliance with the terms of the permit will ensure compliance with all air quality requirements. Therefore, it is recommended that the permit be issued as conditioned.

ATTACHMENT D

RESPONSE TO COMMENTS

KENTUCKY DIVISION FOR AIR QUALITY'S (DIVISION) RESPONSES TO COMMENTS RECEIVED FROM KENTUCKY UTILITIES COMPANY (KU) ON TYRONE GENERATING STATION DRAFT TITLE V PERMIT

1. Comment (1): Reference: Emissions Summary

KU could not reproduce the values for pollutant actual or potential emissions in tons per year and requests that we discuss the values with the Cabinet.

1. Response: Since the emissions summary is not part of the permit but is an estimation, and is for informational purposes only, the Division believes no revision is necessary at this time. For regulated criteria pollutants with emission standards, potential emissions are equated with the allowable emissions

2. Comment (2): Permit Statement of Basis. Page 1, "Source Description'

For E. Units 01, 02, 05, 06, and 07, the dates provided are the dates the emissions units became operational, rather than the dates that construction was commenced. This could be addressed as follows:

E. Unit 01 - boiler constructed before 1947 (operational in 1947).
E. Unit 02 - boiler constructed before 1947 (operational in 1947).
E. Unit 05 - boiler constructed before 1953 (operational in 1953).
E. Unit 06 - coal handling constructed before 1947 (operational in 1947).
E. Unit 07 - auxiliary boiler constructed before 1963 (operational in 1963).

For E. Units 03 & 04, the dates provided are wrong, due to a typo in KU's permit application (we put 1968 instead of 1948). This could be corrected follows:

E. Unit 03 - boiler constructed before 1948 (operational in 1948).
E. Unit 04 - boiler constructed before 1948 (operational in 1948).

2. Response: The Division has made the descriptive clarifications on the permit and has corrected the dates for units 03 and 04.

3. Comment (3): Reference: Permit Statement of Basis, Page 2, "Comments"

The fourth bullet refers to the use of continuous opacity monitors (COMS) as indicators of particulate emissions for emission unit 05 (Boiler 5). Please refer to the General Comment Section for discussion of this issue.

3. Response: Please see chronological responses to UIEK's comments.

4. Comments (4): Reference: Permit Statement of Basis, Page 3, "Comments"

The second bullet refers to submitting a compliance assurance monitoring (CAM) plan for emissions units 0 1, 02, 03, 04, and 05. Emission units 01, 02 03, and 04 (Boilers 1, 2, 3, & 4) are currently exempt from CAM requirements. These boilers meet the definition of a peaking unit under 40 CFR Part 72. As peaking units, these emission units must have an annual average capacity factor of no more than 10% during the previous 3 calendar years and a capacity factor of no more than 20% in each of those calendar years. Taking these capacity limitations into account,, these emission units will not be subject to the CAM rule because they are not classified as major sources; they have potential pre-control device emissions (defined as potential to emit) of the applicable regulated air pollutant that are less than 100% of the amount, in tons per year, required for a source to be classified as a major source. Thus, as peaking units, these emission units will likely be exempt from continuous emission monitoring under the federal CAM requirements in the future. There is no applicable requirement for assuring "continuing" compliance with the emission limitations.

The fourth bullet refers to stack testing for particulate emissions for emission units 01, 02, 03 and 04. KU requests that this bullet be deleted. Please see the specific comments on each of these emission units for a discussion of this issue.

4. Response: See response to UIEK's comments and specific responses to units.

Comments on Emission Unit 0 1 (Boiler 1)

5. Comments (5): Reference: Page 2, Description

The emission unit commenced construction prior to 1947, which is the date it became operational. The boiler is "front-wall fired" rather than "horizontally-opposed fired."

5. Response: The Division has made the descriptive changes on the permit.

6. Comment (6): Reference: Page 3, Testing Requirements

Delete item (a). In light of the small amount of emissions of regulated air pollutants that this emission unit contributes to the environment, the expense of performance testing it is not justified. Total emissions of particulates from this boiler was less than one ton during the five year period ending in 1996. KU proposes to perform a performance test for particulate emissions within six months, if utilization increases such that this unit is no longer exempt.

6. Response: Based on historical data and the function of this unit as a peaking unit, the Division concurs with this comment and the condition has been removed from the permit. However, the Division reserves the right to require performance testing. Additionally, the Division also concurs with KU's proposal to perform a performance test for particulate emissions within six months, if utilization increases such that this unit is no longer exempt.

Comments on Emission Unit 02 (Boiler 2)

7. Comment (7): Reference: Page 5, Description

The emission unit commenced construction prior to 1947, which is the date it became operational. The boiler is "front-wall fired" rather than "horizontally-opposed fired."

7. Response: The Division has made the descriptive changes on the permit.

8. Comment (8): Reference: Page 6, Testing Requirements

Delete item (a). In light of the small amount of emissions of regulated air pollutants that this emission unit contributes to the environment, the expense of performance testing it is not justified. Total emissions of particulates from this boiler was less than one ton during the five year period ending in 1996. KU proposes to perform a performance test for particulate emissions within six months, if utilization increases such that this unit is no longer exempt.

8. Response: Based on historical data and the function of this unit as a peaking unit, the Division concurs with this comment and the condition has been removed from the permit. However, the Division reserves the right to require performance testing. Additionally, the Division also concurs with KU's proposal to perform a performance test for particulate emissions within six months, if utilization increases such that this unit is no longer exempt.

Comments on Emission Unit 03 (Boiler 3)

9. Comment (9): Reference: Page 8, Description

The emission unit commenced construction prior to 1948, which is the date it became operational. The boiler is "front-wall fired" rather than "horizontally-opposed fired."

9. Response: The Division has made the descriptive changes on the permit.

10. Comment (10): Reference: Page 9, Testing Requirements

Delete item (a). In light of the small amount of emissions of regulated air pollutants that this emission units contributes to the environment, the expense of performance testing it is not justified. Total emissions of particulates from this boiler was less than one ton during the five year period ending in 1996. KU proposes to perform a performance test for particulate emissions within six months, if utilization increases such that this unit is no longer exempt.

10. Response: Based on historical data and the function of this unit as a peaking unit, the Division concurs with this comment and the condition has been removed from the permit. However, the Division reserves the right to require performance testing. Additionally, the Division also concurs with KU's proposal to perform a performance test for particulate emissions within six months, if utilization increases such that this unit is no longer exempt.

Comments on Emission Unit 04 (Boiler 4)

11. Comment (11): Reference: Page 11, Description

The emission unit commenced construction prior to 1948, which is the date it became operational. The boiler is "front-wall fired" rather than "horizontally-opposed fired."

11. Response: The Division has made the descriptive changes on the permit.

12. Comment (12): Reference: Page 12, Testing Requirements

Delete item (a). In light of the small amount of emissions of regulated air pollutants that this emission unit contributes to the environment, the expense of performance testing it is not justified. Total emissions of particulates from this boiler was less than one ton during the five year period ending in 1996. KU proposes to perform a performance test for particulate emissions within six months, if utilization increases such that this unit is no longer exempt.

10. Response: Based on historical data and the function of this unit as a peaking unit, the Division concurs with this comment and the condition has been removed from the permit. However, the Division reserves the right to require performance testing. Additionally, the Division also concurs with KU's proposal to perform a performance test for particulate emissions within six months, if utilization increases such that this unit is no longer exempt.

Comments on Emission Unit 05 (Boiler 5)

13. Comment (13): Reference: Page 14, Description

The emission unit commenced construction prior to 1953, which is the date it became operational.

13. Response: The Division has made the descriptive changes on the permit.

14. Comment (14): Reference: Page 14, Emission Limitations

Delete the language in item (a) which references assuring continuous compliance with the particulate emission standard using opacity. Please refer to the General Comment Section for discussion of this issue.

14. Response: See response to UIEK's comments.

15. Comment (15): Reference: Page 15, Testing Requirements

Delete items (a) and (b). Please refer to the General Comments Section for discussion of this issue.

15. Response: See response to UIEK's Comments.

16. Comment (16): Reference: Page 15, Specific Monitoring Requirements

Item (e), 3rd line. Delete the words "for the COMS" since 401 KAR 61:0,05. Section 3(5) provides this exemption for all monitoring systems.

16. Response: See response to UIEK's comments.

17. Comment (17): Reference: Page 16, Specific Recordkeeping Requirements

Delete item (b). Please refer to the General Comments Section for discussion of this issue.

17. Response: See response to UIEK's comments.

18. Comment (18): Reference: Page 17, Specific Reporting Requirements

Delete item (b). Please refer to the General Comments Section for discussion of this issue.

18. Response: See response to UIEK's comments.

Comments on Emission Unit 06 (Coal Handling)

19. Comment (19): Reference: Page 18, Description

The emission unit commenced construction prior to 1947, which is the date it became operational. NOTE: Boilers 1, 2, 3 & 4 were originally installed (between 1947- 1948) as coal-fired boilers; they were later converted to oil-fired boilers.

19. Response: The Division has made the descriptive changes on the permit.

Comments on Emission Unit 07 (Auxiliary Boiler)

20. Comment (20): Reference: Page 20, Description

The emission unit commenced construction prior to 1963, which is the date it became operational.

20. Response: The Division has made the descriptive changes on the permit.

21. Comment (21): Reference: Page 21, Specific Monitoring Requirements

Item (b) requires a qualitative visual observation on a weekly basis and maintenance of a log of the observations. Since this boiler is used very infrequently, KU requests that this language be changed to read: "The permittee shall perform a qualitative visual observation of the opacity of emissions from each stack on a weekly basis, when the unit is operating, and maintain a log of the observations." This will greatly decrease unnecessary recordkeeping of noting that the emissions unit is not operating.

21. Response: The Division has made the suggested change to "...when the unit is operating, and...".

Comments on Insignificant Activities

22. Comment (22): Reference: Page 22, Insignificant Activities

Item (1): Delete the phrase "from plant maintenance" from used oil burning. Add item (7) Paved and unpaved roads.

Item (2):KU requests that the following language be added as an additional item under insignificant activities to read: "All other activities individually resulting in emission less than IO lb/day or 2 ton/year of a regulated air pollutant not specifically listed above." The rationale is to eliminate the need for a permit revision, even if only an administrative amendment, if additional insignificant sources are brought on site.

22. Response: (1)The Division has deleted the phrase but note the reword of this item to be consistent with other KU Title V permits: "1. Burning deminimus quantities of used oil for energy recovery." The Division has added "Paved and unpaved roads to which 401 KAR 63:010 applies". (2)The Division acknowledges that addition of this term could reduce some notifications and permit changes; however, the criteria threshold for which a hazardous air pollutant must not exceed to meet the insignificant activity criteria based on 401 KAR 50:035, Section 5(4)(d) is 0.5 ton per year. Kentucky Utilities Company's proposal of 10 pounds per day and two tons per year exceed the cutoff for a hazardous air pollutant emission. Additionally, the condition does not ensure that best available control technology requirements per 401 KAR 63:022 will be met for a new activity, or that applicable requirements, standards, and regulations will be followed. Therefore, this generalization of activities does not comply with 401 KAR 50:035, Section 5. Thus, the Division does not concur with addition of this term.

Comments on Section F. Monitoring- Record Keeping, etc

23. Comment (23): Reference: Page 26, item 6.

A requirement to contact the Regional Office promptly if a deviation from a permit requirement occurs is reasonable; however, defining this as within three hours of the occurrence may not be practical or possible in some cases (e.g.; the occurrence may not be discovered within this time period and Division for Air Quality personnel may not be available). We request that the language be changed to define promptly as: "within 3 normal working hours of discovery of the deviation, where normal working hours are defined as between 8:00 am and 4:30 pm Monday through Friday, excluding holidays."

23. Response: The Division has revised the cited condition which now reads:

6. a) In accordance with the provisions of Regulation 401 KAR 50:055, Section 1, the owner or operator shall notify the Division for Air Quality's London Regional Office concerning startups, shutdowns, or malfunctions as follows:

i) When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.

ii) When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall cause written notice upon request.

b) In accordance with the provisions of Regulation 401 KAR 50:035, Section 7(1)(e)2, the owner or operator shall promptly report deviations from permit requirements including those attributed to upset conditions to the Division for Air Quality's London Regional Office. Prompt reporting shall be defined as quarterly for any deviation related to emission standards (other than emission exceedances covered by condition 6(a) above) and semi-annually for all other deviations from the permit requirements if not otherwise specified in the permit.

GENERAL COMMENTS - TYRONE GENERATING STATION

1. Comment (1): Issue of assuring compliance with the particulate emission standard by using opacity data as an indicator:

Under 401 KAR 50:035. Section 7(l)(c), the Cabinet has the authority to require only those emission monitoring and analysis procedures or test methods required in the applicable regulations for the emissions unit. While 401 KAR 61:005. Section 3(6)(a) specifically requires indirect heat exchangers to continuously monitor opacity and sulfur dioxide, it does not require this for particulate emissions. In addition, there is no requirement in 401 KAR 61:015. (Indirect Heat Exchangers) for the continuous emission monitoring of particulates.

The existing regulations do provide for periodic monitoring of particulate emissions, using applicable EPA Reference Method stack tests, as the method by which to demonstrate compliance. To require continuous monitoring of either particulates or a surrogate for particulates (such as opacity or ESP control parameters), establishes a new requirement. Using a Title V permit to impose new requirements on an existing source is contrary to USEPA's White Paper, dated July 10, 1995. For new requirements to be imposed on any source category or emissions units, both USEPA and the Cabinet must conduct a proper rulemaking process, with the opportunity for public notice and comment.

The establishment of continuous monitoring methods for applicable emission units is premature, especially in light of the future requirements under the Compliance Assurance Monitoring (CAM) rule. As stated on page 3 of the Permit Statement of Basis, this rule does not apply until such time as the permittee applies for a significant revision to this Title V permit or upon Title V permit renewal. Under the CAM rule, it is the permittee's obligation to develop a Compliance Assurance Monitoring Plan for applicable emissions units and to submit it to the permitting authority for review and approval. KU is aware of this obligation and will develop and submit a CAM Plan at the appropriate time for applicable emission units at the Tyrone Generating Station. KU has an understanding of how optical density relates to opacity (the principle by which we currently measure opacity), but KU asserts that what is needed is to determine how optical density relates to mass particulate emissions.

KU is not aware of a readily quantifiable/direct relationship between opacity and mass particulate emissions. Because of this, we feel that more information and testing needs to be gathered to make an informed decision on whether opacity indicator ranges are even appropriate for our emission units. It may be that some other method, or combination of methods, such as indicator ranges on the operating parameters for our control devices, are more appropriate methods for indicating continuous compliance with particulate emissions. The permittee should have the flexibility to choose the method by which it will assure compliance with the particulate emissions standard on an emissions unit by emissions unit basis.

Thus, in lieu of the Cabinet's language on assuring continuing compliance with the particulate mission standards, KU proposes to:

(a) (1) Within the first 12 months, conduct a performance test for particulate emissions to demonstrate compliance with the allowable standard.

NOTE: This amount of time will be needed to engage the services of a qualified stack testing firm or modify our in-house capabilities to conduct performance tests for particulates and then conduct stack tests on all of the applicable emission units in our system.

(2) Conduct an additional performance test for particulate emissions during the third year of the permit term.

(3) Maintain records on control parameters (i.e., current and voltage readings) for the electrostatic precipitators during the permit term.

(b) Within the following 48 months, establish a continuous monitoring method using either Opacity Indicator Ranges (from COMS), Parametric Monitoring Indicator Ranges (from control device operations), or other method or combination thereof to be used as an indicator of particulate emissions from applicable emission units.

NOTE: This amount of time will be needed to work with the Cabinet to resolve issues regarding: minimum data requirements, relationships between the indicator ranges and particulate emissions, averaging times, establishment of opacity indicators for particulate emissions greater dm opacity limitations themselves, opacity limitation variance procedures during stack testing, recordkeeping and reporting requirements, etc.

1. Response: See response to UIEK’s comments.

2. Comment (2): KU requests that the following language be added as an additional item under General Conditions: "In accordance with Region IV's Continuous Emission Monitoring Enforcement Plan, the permittee shall be deemed in compliance if less than two percent of the non-exempt opacity or emission values during any calendar quarter are in excess of the permit Limit."

2. Response: See response to UIEK’s comments.